ABSTRACT

A wheelchair propulsion system provides a wheelchair user with a continuous input drive path of linear or elliptical shape. The propulsion system includes a Cardan gear system defining a linear reciprocating or elliptical input path over which propulsive force may be continuously applied to the wheelchair wheels. Because the input path is continuous, efficiency is increased and impact on the user's body is reduced thereby reducing discomfort and physical demands on the user's body. The angle of the input path may be altered to suit the particular needs of a user by rearrangement of the relative angular orientations of the gears in the propulsive system. The present propulsive mechanism may be integrated into a wheelchair or retrofitted to existing wheelchairs.